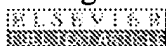


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☐ 1: J Magn Reson. 2000 Jun;144(2):343-56.

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The multidimensional filter diagonalization method.

Mandelstam VA.

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The theory and numerical aspects of the recently developed multidimensional version of the filter diagonalization method (FDM) are described in detail. FDM can construct various "ersatz" or "hybrid" spectra from multidimensional time signals. Spectral resolution is not limited by the time-frequency uncertainty principle in each separate frequency dimension, but rather by the total joint information content of the signal, i.e., $N(\text{total}) = N(1) \times N(2) \times \dots \times N(D)$, where some of the interferometric dimensions do not have to be represented by more than a few (e.g., two) time increments. It is shown that FDM can be used to compute various reduced-dimensionality projections of a high-dimensional spectrum directly, i.e., avoiding construction of the latter. A subsequent paper (J. Magn. Reson. 144, 357-366 (2000)) is concerned with applications of the method to 2D, 3D, and 4D NMR experiments. Copyright 2000 Academic Press.

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